

The claimed invention is:

1. A system for bi-directional power distribution line communication, the system configured for data communication with an endpoint transceiver located at a customer premise, the system comprising:
 - 5 a time server in electrical communication with the transceiver, the time server configured to retrieve the time; and
 - a substation controller in electrical communication with a power distribution line, the substation controller including a transceiver and a programmable circuit, the programmable circuit including a substation clock, the programmable circuit programmed to periodically retrieve the time from the time server to calibrate the substation clock to the retrieved time; and to control the transceiver to transmit the time to the endpoint transceiver.
- 10 2. The system of claim 1 wherein:
 - the time server is programmed to adjust the time for the time zone in the geographic region in which the system is located to determine an adjusted time; and
 - 15 the time retrieved by the transceiver is the adjusted time.
- 15 3. The system of claim 1 wherein:
 - the programmable circuit is further programmed to adjust the time for the time zone in the geographic region in which the system is located to determine an adjusted time; and
 - 20 the time retrieved by the transceiver is the adjusted time.
4. The system of claim 3 wherein:

the programmable circuit is further programmed to adjust the time for daylight savings time during period where the geographic region in which the system is located recognizes daylight savings time.

5. The system of claim 1 wherein the time retrieved by the time server is Universal Time Coordinated (UTC).
6. The system of claim 1 wherein the time is retrieved from the global positioning system.
7. The system of claim 1 wherein the time is retrieved from a radio signal carrying the time generated from an atomic clock.
8. The system of claim 1 wherein the programmable circuit is programmed to send the time to the endpoint transceivers about once every five minutes.
- 10 9. The system of claim 1 further comprising the endpoint transceiver, the endpoint transceiver including a programmable circuit and an endpoint clock, the endpoint transceiver programmed to calibrate the endpoint clock to the time received from the substation controller upon receiving the time from the substation controller.

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